

RICHARD E. O'CONNELL

IBLA 85-206

Decided July 20, 1987

Appeal from a decision of the Wyoming State Office, Bureau of Land Management, rejecting in part simultaneous oil and gas lease offer W-86942.

Reversed.

1. Oil and Gas Leases: Applications: Generally -- Oil and Gas Leases:  
Known Geologic Structure -- Oil and Gas Leases: Noncompetitive  
Leases

Where a record is shown, by a preponderance of the evidence, to be insufficient to support a BLM decision extending a KGS, the determination is reversed.

APPEARANCES: Don M. Fedric, Esq., Roswell, New Mexico, for appellant; Lowell L. Madsen, Esq., Office of the Regional Solicitor, Rocky Mountain Region, U.S. Department of the Interior, for the Bureau of Land Management.

OPINION BY ADMINISTRATIVE JUDGE ARNESS

Richard E. O'Connell has appealed from a decision of the Wyoming State Office, Bureau of Land Management (BLM), dated November 8, 1984, which rejected in part simultaneously filed oil and gas lease offer W-86942 because certain lands totaling 1,285.51 acres in parcel WY-473 had been determined to be within the Washakie Basin Known Geologic Structure (KGS) effective June 29, 1984. A KGS is defined as "technically the trap in which an accumulation of oil or gas has been discovered by drilling and determined to be productive, the limits of which include all acreage that is presumptively productive." 43 CFR 3100.0-5(l). The affected lands include lots 1, 2, 3, 4, S 1/2 N 1/2, S 1/2, in sec. 4 and all of sec. 9 in T. 25 N., R. 97 W., sixth principal meridian, Sweetwater County, Wyoming. The decision found that because the tract had been determined to be within an extension of a KGS of a producing oil or gas field the lands were only subject to leasing through competitive bidding under 30 U.S.C. § 226(b)(1) (1982).

The record on appeal contains a copy of the initial geological report for the Washakie Basin KGS and supporting maps. The report concludes that the lands in O'Connell's lease offer were properly included in the Washakie Basin KGS, relying for this conclusion upon oil and gas development of the

affected area to show that there is a "stratigraphic" trapping mechanism common to this land and the rest of the Washakie and Great Divide Basin reservoirs. Relevant to this land, the existence of the Almond sand reservoir was considered important to the extension of the Washakie KGS. See Report at 2, 3. The terminus of the zero net upper Almond reservoir isopach formation is shown, on an attached map of the KGS, to cross the southeast quarter of sec. 4 and to include most of the east and south halves of sec. 9. Id. at 3. This formation is considered by the report to be productive of oil and gas. The basis for this conclusion is apparently the existence of two wells, the 1 Andri-Federal and the 1 Forbes-Federal, drilled in sec. 1 and sec. 14, respectively, T. 25 N., R. 97 W., and said by counsel for BLM to "exhibit the reservoir qualities used for the Washakie Basin creation and expansion into T. 25 N., R. 97 W" (BLM Reply filed Mar. 22, 1985, at 2). Attached to the initial geological report, however, is a list, by township and range, of wells drilled. The list shows the status of the "1 Andri-Federal" well in sec. 1 to be "D & A," an abbreviation which stands for "drilled and abandoned."

Through the affidavit of his own expert geologist, Donald M. Van Sickel, 1/ appellant offers this analysis of BLM's data:

[T]he [BLM's] narrative report does not specifically set forth a justification for the known geologic structure boundary in [T. 25 N., R. 97 W.]; but rather, the narrative, \* \* \* appears to base the known geologic structure boundary solely and entirely upon contours for the upper Almond formation. These contours \* \* \* are described in the narrative as isopachs, which, in this case is simply a name given to contour lines which have been drawn to represent the upper Almond reservoir values assumed present by the person drawing the contours. The outer boundary contour is referred to in the narrative as the "zero net upper Almond isopach," meaning that based upon the value given, no reservoir sand exists outside of the zero contour, but presumptively productive reservoir sand is said to exist within the exterior boundary of the zero contour, with sand thickness and presumptively the quality of production increasing as isopach values increase. Since everything within the zero contour presumptively contains upper Almond reservoir sands, the narrative report stated that "each 640 acre tract cut by this isopachous line was included in the KGS." This statement, however, \* \* \* is simply incorrect \* \* \*.

In Township 25 North, Range 97 West, in which Parcel WY 473 is located, more than one-half of the land cut by the zero net upper Almond reservoir isopach line has not been included in the Washakie Basin known geologic structure. For example, sections 15, 16, 17, 20, 21, 22, 23, 25, 26, 27, 28, 29, 33 and 34 are all

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1/ Van Sickel was formerly Regional Geologist for the Southern Rocky Mountain Region, Geological Survey, in Roswell, New Mexico.

within the exterior boundary created by the zero isopach line and yet these sections are not included in the known geologic structure \* \* \*.

(Statement of Reasons at 8-9). This assessment is apparently correct.

In further support of the contention there is no geologic justification to support the inclusion of T. 25 N., R. 97 W. in the Washakie KGS, appellant continues his summary of Van Sickles evidence:

Not only is there no Almond sand production in Township 25 North, Range 97 West, there is substantial evidence that such formation is not productive in this township. Only two wells have been drilled in this township which have penetrated the Almond formation \* \* \*. The Woods Petroleum Well #1 Andri Federal well located in Section 1 was drilled to a total depth of 14,904' and was completed December 21, 1980. The Bureau of Land Management map indicates that Section 1 has 10 feet to 20 feet of Almond sand reservoir, however, in actuality, the Almond formation in this well was dry \* \* \*. The Energy Reserves Group Well #1 Forbes Federal well located in Section 14 was drilled to a total depth of 14,315 feet and was completed October 12, 1979. On the Bureau of Land Management map \* \* \* there is alleged to be 50 feet of presumptively productive Almond sand reservoir under Section 14. The drilling, however, of the #1 Forbes Federal well proves the Bureau of Land Management analysis to be incorrect, as the Almond formation was also dry in this well \* \* \*.

(Statement of Reasons at 10).

Together with the expert testimony excerpted above appellant has included a map and reports. Appellant begins his argument with the contention that "oil and gas development" presumes some recent or new development or activity so as to create new information or "at the very least, add to the old." Appellant states, and BLM concedes, that there has been no pertinent oil and gas development activity in T. 25 N., R. 97 W. since 1980. As a result, appellant contends, there was no new information in June 1984 to serve as a basis for extension of the Washakie Basin KGS so as to include part of those lands in parcel WY-473, since the information which did exist had apparently not previously been considered sufficient to extend the Washakie KGS. To this, counsel for BLM reveals that BLM has been obliged to review previous BLM determinations because money and manpower shortages had resulted in inadequate prior reviews. This later review is said to have resulted in the KGS extension which is the subject of this appeal. In reference to appellant's observation that sec. 9 was not originally included within the KGS, BLM states that any inconsistency in the agency's analysis is due to the occurrence of a boundary line separating the Rawlins and Rock Springs Districts in the vicinity of the extension. BLM explains that sec. 9 of T. 25 N., R. 97 W., was originally omitted from the KGS description because sec. 9 was mistakenly believed to have been included within the Rock Springs District. BLM leaves unanswered appellant's observation that more than

one-half of the land cut by the zero net upper Almond reservoir isopach 1 line has not been included in the Washakie Basin KGS. <sup>2/</sup> Thus, at this point, it is apparent that BLM has not finished its review of this land, and that, as now constituted, the study which is the basis for the KGS extension is, at least, not complete.

Moreover, responding to appellant's contention that there has been no production whatever from the Almond formation in T. 25 N., R. 97 W., BLM states that:

As the record shows two wells which penetrated the Almond formation have gas cross-over on the CNL/FDC [Compensated Neutron/Formation Density] log showing free gas in the reservoir, have greater than 6% porosity, and have been demonstrated to be within the stratigraphic reservoir trap through extensive geologic analysis. Although the boundary of the KGS is based on the Upper Almond Sandstone, the KGS is composed of numerous stacked reservoirs. The success ratio of this portion of Washakie Basin KGS is 87.2%.

(BLM Answer at 2-3). In response to this assertion, appellant points out that BLM did not submit the logs to which it refers for the conclusions stated and argues:

[L]og responses have no relationship with reality, when reality is different from a log response. In this case, even if gas was said to exist on the logs, actual well tests did not result in producible gas. The definition of a KGS requires productive oil or gas in order for presumptively productive acreage to be included in a KGS. In this case, the BLM simply has not addressed the issue of the Almond Formation dry holes in Township 25 North, Range 97 West. There is no Almond production in this township to which the BLM can look as a basis for the BLM to establish other presumptively productive acreage.

(Response at 3).

This analysis is apt. The record as now constituted makes it difficult to determine how BLM arrived at the conclusion that the Washakie KGS should be extended into sections 4 and 9 of Township 25. Indeed it is apparent that Van Sickle's evidence has overcome BLM's justification for the extension of the KGS to secs. 4 and 9 since Van Sickle's analysis covering the effect of

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<sup>2/</sup> In Pamela S. Crocker-Davis, 94 IBLA 328 (1986), we held it was error for BLM to include an entire section in a KGS, simply because any part of the section, no matter how small, was touched by an isopach used to establish a KGS boundary. What we held in that decision applies equally here, where BLM stated that both secs. 4 and 9 were to be included in the KGS because "each 640 acre tract cut by this isopachus line was included in the KGS." Absent a showing that the determination to include all of secs. 4 and 9 in

the Andri-Federal and the Forbes-Federal wells remains unexplained and unrebutted by BLM. Accordingly, we find that appellant has overcome BLM's evidence supporting this KGS extension by a preponderance of the evidence of record.

[1] Appellant also points out that prior decisions of this Board appear to have established varying tests to determine whether it is appropriate in a given case to order a hearing (Lloyd Chemical Sales, Inc., 82 IBLA 182 (1984); Celeste C. Grynberg, 74 IBLA 180 (1983)), or to remand to BLM for further factfinding (Hepburn T. Armstrong, 60 IBLA 140 (1981)), or to reverse the KGS determination and then order a lease to issue for the lands formerly included within the KGS (James Muslow, Sr., On Reconsideration, 65 IBLA 352 (1982)). Some of the language in the Muslow decision might indicate there is some basis for making a distinction between cases based upon the presentation of varying standards of proof so as to justify differing dispositions depending upon the amount of evidence available for decisionmaking in a given case. This, however, is not the actual situation in these cases. In Muslow the Board applied a rule of evidence which assigned to the lessee the obligation to show by "clear and definite" evidence that the KGS determination was in error. This same burden of proof (which the Board found was satisfied in Muslow) has not been applied in cases decided by this Board after 1984, because it was held that it was error for the Department to require an appellant to make such a difficult showing where the issue is merely whether a certain tract of land is to be leased competitively or not. See Bender v. Clark, 744 F.2d 1424 (10th Cir. 1984). The Bender decision disapproved the "clear and definite" rule of evidence previously used by the Board, and required that in cases involving KGS determinations, the evidentiary standard to be used is whether a preponderance of the evidence establishes the existence or nonexistence of a KGS. 744 F.2d at 1429. Thus, appellant is wrong when he argues there is a sliding scale of proofs to determine whether a given KGS case requires further agency factfinding, determination by this Board, or a hearing before an Administrative Law Judge held in conformity to provisions of the Administrative Procedure Act (APA), 5 U.S.C. § 554 (1982). Any basis for appellant's argument arising in prior Board decisions was demolished by the Bender court when it held that the preponderance of the evidence standard is the standard to be applied in KGS cases generally, without regard to whether the Department elects to use an APA hearing to conduct factfinding concerning the KGS determination. The Bender opinion observes:

The traditional standard required in a civil or administrative proceeding is proof by a preponderance of the evidence. \* \* \* The government's contention that such a standard is applicable only in APA hearings is without merit. If an administrative hearing is not required by statute, it does not necessarily

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fn. 2 (continued)

the Washakie KGS was based upon some reasoned basis, BLM should have included only the smallest legal subdivision of each section which was cut by the zero isopach. Id. at 331, 332.

follow that the traditional standard of proof -- preponderance of the evidence -- is inapplicable. Although the procedural safeguards elicited in § 556 of the APA do not apply to informal administrative hearings \* \* \*. See Wong Yang Sung v. McGrath, 339 U.S. 33, 50, 70 S. Ct. 445, 454, 94 L. Ed. 616 (1950), the agency's ultimate review of the evidence presented at any hearing must not controvert basic principles of fairness. If an agency elects to conduct an informal hearing, the proper standard of proof -- one which considers all the interests concerned -- must be invoked. [Emphasis in original, footnote and citations omitted.]

Id. at 1429. Since the Bender decision, this Board has followed the standard established by that opinion for KGS determinations. The test in KGS cases is, without exception, whether there has been a showing by a preponderance of the evidence either that BLM has erred or that its determination was correct. See e.g., Mary Nan Spear, 85 IBLA 303 (1985).

Because, as we have found, appellant has proven by a preponderance of the evidence of record that the extension of this KGS was made in error, it is necessary to reverse BLM's decision. See Bender v. Clark, *supra*.

Therefore, pursuant to the authority delegated to the Board of Land Appeals by the Secretary of the Interior, 43 CFR 4.1, the decision appealed from is reversed.

Franklin D. Arness  
Administrative Judge

I concur:

Gail M. Frazier  
Administrative Judge.

## ADMINISTRATIVE JUDGE HARRIS CONCURRING:

Appellant has challenged the Bureau of Land Management's (BLM's) designation of the Washakie Basin known geologic structure (KGS) to the extent it includes secs. 4 and 9, T. 25 N., R. 97 W., sixth principal meridian. Appellant submitted a simultaneous oil and gas lease application for those and other lands, described by BLM as parcel WY-473 in the July 1983 simultaneous drawing. Appellant received first priority and was invited to file an offer for those lands, which he did. Upon reviewing the status of the lands prior to lease issuance, BLM determined that the lands in question (secs. 4 and 9) were in the KGS, effective June 29, 1984. Thereafter, BLM rejected the offer as to secs. 4 and 9.

One challenging a KGS determination has the burden of establishing by a preponderance of evidence that BLM erred in its determination. Bender v. Clark, 744 F.2d 1424 (10th Cir. 1984). In this case appellant has satisfied that burden. BLM erred in extending the Washakie Basin KGS to include secs. 4 and 9.

The record reveals that the oil and gas activity in T. 25 N., R. 97 W. that BLM relied upon in extending the KGS to secs. 4 and 9 was the drilling of two wells, the 1 Andri-Federal and the 1 Forbes-Federal, in secs. 1 and 14, respectively. 1/ BLM utilized this information to draw the zero net Upper Almond Reservoir isopach to cross the southeast quarter of sec. 4 and to include most of sec. 9, except for the NW 1/4 thereof. 2/

Appellant has attacked BLM's determination through the affidavit of Donald M. Van Sickle, attached as Exhibit B to the statement of reasons. Van Sickle is a consulting geologist who for a number of years (1956-67) was the District Geologist for the Geological Survey in Casper, Wyoming, and was responsible for KGS determinations in that State, as well as, Utah, Colorado, South Dakota, and Nebraska. From 1967 to 1980 he was Regional Geologist (titled changed in 1973 to Area Geologist), Southern Rocky Mountain Region, Geological Survey, Roswell, New Mexico. Again, he was responsible, inter alia, for KGS determinations (Exh. B.1).

Van Sickle states that BLM's undated geology report does not specifically identify the justification for the KGS boundary in T. 25 N., R. 97 W. He assumes the KGS is based on the Upper Almond formation. Further, he states:

Lacking more specific narrative information, it must be assumed that the KGS boundary is based entirely on the zero net upper

1/ BLM's undated initial geological report for the Washakie Basin KGS includes the following information:

Township	Range	Section	Depth	Producing Horizon	Status	Well Date
25N	97W	1	14,904	D&A	1980	

14 14,315 ERICSON Gas 1979" 2/ This line is shown on one of two "support" maps accompanying the geological report. The relevant map is described as "ISOPACH MAP WASHAKIE BASIN KGS UPPER ALMOND RESERVOIR."

Almond Isopach, as such contour is shown on the maps. The narrative report indicates that "each 640 acre tract cut by this isopachous line was included in the KGS."

(Exh. B.4).

Van Sickle goes on to criticize the KGS designation as being inconsistent because other sections in T. 25 N., R. 97 W. cut by the same line are not included in the KGS. BLM adequately explains this apparent discrepancy when in its answer it states:

3.a. The inconsistency Mr. VanSickle, Appellant's consultant, refers to on the northwestern boundary of the KGS is due to the BLM's District boundary between the Rawlins and Rock Springs Districts. Since the signing authority for KGS actions is in the District Office, the Rawlins District staff had no authority to expand the KGS beyond the District boundary. The Rock Springs KGS staff is presently working on the Washakie Basin KGS and should have completed their expansion within the next few months.

(Answer at 2).

However, most importantly, Van Sickle refutes BLM's geologic justification for including the lands in question in the KGS. He states:

6. There have been only two wells drilled in Township 25 North, Range 97 West which have penetrated the Almond Formation. The most recent well is the Woods Petroleum Well #1 Andri Federal, located in the SW/4NE/4 of Section 1, drilled to a total depth of 14,904 feet and completed December 21, 1980. This well drilled through the Almond formation and was dry. The second well is Energy Reserves Group Well #1 Forbes Federal located in the center of the NE/4 of Section 14, drilled to a total depth of 14,315 and completed October 12, 1979. The Almond Formation was also dry in this well. This well did produce some gas from a deeper formation, [Ericson] not in the Almond Sands, and a KGS was established for the same in 1979, with most of Section 14 and a small part of Sections 11 and 13 being in the KGS. This KGS was not further expanded after 1979, as no additional drilling which might expand the same took place. There is no Almond Sand Reservoir production in Township 25 North, Range 97 West.

7. The purpose of a KGS determination is to establish an area around productive oil and gas wells which includes all acreage presumptively productive, based on sound geologic interpretation. For lands to be included within a KGS, they must be considered presumptively productive, and geologic evidence based upon existing production must exist to create a presumption of other productivity. This Northwestern portion of the KGS, extended on the basis of "net reservoir sand" in the Almond formation, as calculated from mechanical logs, according to the Narrative Report, is without justification. Only two wells have



ever been drilled in Township 25 North, Range 97 West so as to penetrate the Almond Formation Reservoir, and neither well showed evidence of oil or gas in the Almond Sands. Thus, there are no logs or other data from which Almond Reservoir sands can be said to be presumptively productive in any part of Township 25 North, Range 97 West.

(Exhs. B.5-B.6.).

Thus, the 1 Forbes-Federal well served as the basis for a 1979 KGS determination. The only subsequent activity to justify the inclusion of secs. 4 and 9 in the KGS is the 1 Andri-Federal located in sec. 1, which according to BLM's own report was drilled and abandoned. Moreover, the production from the 1 Forbes-Federal well which served as the basis for the 1979 KGS determination was from the Ericson formation, the formation below the Almond.

In its answer BLM alleged that both of those wells had gas cross-over on the CNL/FDC [Compensated Neutron/Formation Density] log showing free gas in the reservoir, have greater than 6% porosity and have been demonstrated to be within the stratigraphic reservoir trap through geologic analysis. Although the boundary of the KGS is based on the Upper Almond Sandstone, the KGS is composed of numerous stacked reservoirs.

(Answer at 2-3).

Appellant's response to BLM's answer includes an affidavit from Van Sickel (Exh. A) evaluating BLM's answer. He states therein:

A Known Geologic Structure, by definition, includes all lands that are presumptively productive. The production does not have to be commercial, but it must be producible. Logs can show the possibility of a hydrocarbon reservoir and formation porosity can also be calculated from such logs. The best of logs, however, cannot create producible gas where producible gas does not exist. In the present instance, the log responses for the two wells in question may indicate on paper the existence of some gas, but the actual, physical testing of the wells did not result in producible hydrocarbons in the Almond formation. Logs are useful tools, but they are only tools, and only one of many. Their relationship to reality must be proven with results. The only two wells drilled in Township 25 North, Range 97 West to penetrate and test the Almond formation did not encounter producible hydrocarbons in the Almond formation. Even if reservoirs are stacked, producible hydrocarbons from whichever reservoir must be found to exist for a KGS to exist. The two Almond formation dry holes certainly prevail in this case over the theoretical, test-disproved log responses.

(Exhs. A.0-A.1).

Appellant has established by a preponderance of the evidence that it was error for BLM to extend the KGS boundary to include secs. 4 and 9. 3/ BLM has had the opportunity to explain the basis for its determination and it has done so, to the extent possible. Appellant has established, however, through the affidavits of his consultant, that the geologic data relied upon by BLM does not support extending the zero net Upper Almond reservoir isopach to include secs. 4 and 9. 4/

For the above-stated reasons, I concur.

Bruce R. Harris  
Administrative Judge

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3/ While in an area of stacked reservoir systems a combination of productive wells and dry holes could justify the establishment of a KGS based on the geologic data disclosed by that drilling activity, it is difficult to support the extension of a KGS to encompass lands in secs. 4 and 9 of a township when the only new information to support such an extension is a dry hole in sec. 1 of the same township.

4/ Clearly, as noted by the lead opinion there was error in this case, in any event, under our holding in Pamela S. Crocker-Davis, 94 IBLA 328 (1986). Even assuming the zero net isopach was properly extended into secs. 4 and 9, Crocker-Davis states that only the smallest legal subdivision "invaded by the edge of the producing structure" may be included in the KGS. Id. at 331.

